What is claimed is:

1. A brushless d.c. drive having a synchronous motor having a multiphase armature winding (12), having a switching device (11) controlled by an electronic controller (16) and connected upstream from the armature winding (12) for commutation of the armature winding (12), and having a device for generating a fail-silent response, wherein the device has separating means which respond in the event of a fault and separate the connections between the winding phases (13) of the armature winding (12).

2. The d.c. drive according to Claim 1, wherein the separating means can be activated by a control unit (17) which detects a fault case.

3. The d.c. drive according to Claim 1 or 2, wherein the separating means are designed in such a way that they cause an irreversible separation.

4. The d.c. drive according to Claim 3, wherein the separating means have at least one pyrotechnic blasting capsule (19) which can be triggered by the control unit (17).

5. The d.c. drive according to Claim 4, wherein the armature winding (12) is in a star connection, and the pyrotechnic blasting capsule (19) is arranged at the neutral point (20) in such a way that it is capable of rupturing the neutral point (20).

6. The d.c. drive according to Claim 4, wherein the separating means have switching contacts (25) which are prestressed in the direction of opening and holding elements (26) which secure one of the switching contacts (25) in the closed position, and the at least of one blasting capsule (27) is

arranged so that it is capable of destroying or releasing the holding elements (26).

7. The d.c. drive according to Claim 6, wherein the armature winding (12) is in a star connection, and a switching contact (25) having a holding element (26) is arranged between the neutral point (20) and the end of the winding of at least two winding phases (13), and a common blasting capsule (27) is provided for both holding elements (26).

8. The d.c. drive according to Claim 6, wherein the armature winding (12) is in a delta connection, and a switching contact (25) having a holding element (26) is connected in series with each winding phase (13), and a pyrotechnic blasting capsule (27) is provided for each holding element (26) or one common blasting capsule (27) is provided for all the holding elements (26).

9. The d.c. drive according to Claim 3, wherein the separating means have at least one fusible cutout (22) which can be controlled by the control unit (17).

10. The d.c. drive according to Claim 1 or 2, wherein the separating means are designed in such a way that they cause a reversible separation.

11. The d.c. drive according to Claim 10, wherein the separating means have electric switching contacts (23) arranged in the winding phases (13) and they can be controlled by electronic or mechanical means.

12. The d.c. drive according to one of Claims 9 through 11, wherein the armature winding (12) is in a star connection, and the separating means are arranged at the neutral point (20).

13. The d.c. drive according to one of Claims 9 through 11, wherein the armature winding (12) is in a delta connection, and the separating means are each connected in series with each winding phase (13).

14. The d.c. drive according to one of Claims 2 through 13, wherein the switching device (11) has semiconductor switches (15) in a bridge circuit, the control unit (17) which detects a fault case has measurement shunts (18) arranged in each connecting line (14) between the switching device (11) and the armature winding (12), and the control unit (17) measures the electric current flowing through the measurement shunts (18) in simultaneous blocking phases of all the semiconductor switches (15), and in the event of a current value which differs significantly from zero occurs in at least one of the measurement shunts (18), it delivers an activation signal to the separating means.

15. The d.c. drive according to one of Claims 2 through 13, wherein the control unit (17) that detects the fault case has measurement shunts (21), each connecting a winding phase (13) of the armature winding (12) to the neutral point (20), and the control unit (17) continuously measures the amount and phase of the shunt currents and adds them as vectors, and in the event of a significant deviation of the vector sum from zero, it delivers an activation signal to the separating means.